

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 05-175143

(43)Date of publication of application : 13.07.1993

(51)Int.Cl.

H01L 21/205

H01L 21/365

(21)Application number : 03-344554

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(22)Date of filing : 26.12.1991

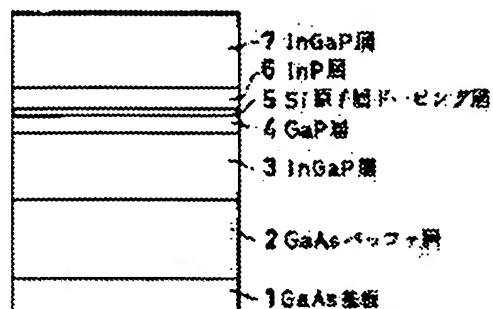
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## (54) MANUFACTURE OF COMPOUND SEMICONDUCTOR DEVICE

### (57)Abstract:

PURPOSE: To obtain a steep impurity distribution by doping an atomic layer to a high concentration to suppress the diffusion of the impurity of the atomic layer in the manufacture of a ternary or higher compound semiconductor device through an epitaxial organometal vapor-phase growth method, etc.

CONSTITUTION: Impurity diffusion suppression layers 4, 6 thinner than a critical film thickness are grown in the lower layer and upper layer of an atomic layer doping layer 5. In this case, when a compound semiconductor is a ternary III-V compound semiconductor and the impurity diffusion suppression layers 4, 6 of the lower and upper layers of the atomic layer doping layer are binary compound semiconductors (e.g. GaP and InP) in which only group III elements are different or binary compound semiconductors in which only group V elements are different and a diffusion occurs between both impurity diffusion suppression layers, the composition of both suppression layers can be the same as that of the ternary III-V compound semiconductor 3, 7 (e.g. InGaP) further in the lower or upper layer of those suppression layers.



## LEGAL STATUS

[Date of request for examination] 11.12.1998

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number] 3189061

[Date of registration] 18.05.2001

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]